Report to the 62nd Legislature

Use of State Wildlife Grant Funds in the Nongame Section of Fish, Wildlife & Park's Wildlife Program

December 2010

Photo credits: Kristi Dubois (pika, short-horned lizard, eared grebe)

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PROJECT REPORT SUMMARY – STATE WILDLIFE GRANT FUNDS FY2010 & FY2011

In 2001 Congress established the State Wildlife Grants (SWG) program to support conservation of wildlife habitat and wildlife species across the nation. Recognizing the need for comprehensive fish and wildlife conservation, the State of Montana and the U.S. Fish and Wildlife Service developed a comprehensive fish and wildlife conservation strategy for Montana. The overall goal of this strategy is to prevent wildlife from declining to the point of being endangered. Montana's Comprehensive Fish and Wildlife Conservation Strategy (CFWCS; 2005) embraces all vertebrate species known to exist in Montana, including game and nongame species, as well as some invertebrate species (freshwater mussels and crayfish). Montana Fish, Wildlife & Parks (FWP) believes comprehensive management of fish and wildlife guided by the CFWCS and supported in part by the SWG funding mechanism has led to more effective landscape level conservation.

In 2007, FWP developed an implementation plan to direct priorities for implementation of the CFWCS for the next five years. As part of that implementation plan, it was decided that State Wildlife Grants funding would be divided as follows: 50% towards habitat conservation, 25% towards species conservation, and 25% towards survey and inventory. Within these categories, FWP also identified priority species and habitats. These include:

Community Types:	Riparian and Wetland
	Sagebrush
	Grassland Complexes
	Aspens (one component of the broadleaf forest community type)
	Mountain Streams
	Prairie Rivers and Streams
Species:	Northern Leopard Frog
	Spiny Softshell Turtle
	Greater Sage Grouse
	Mountain Plover
	Burrowing Owl
	Trumpeter Swan
	Prairie Dogs (white and black-tailed)
	Grizzly Bear
	Burbot
	Westslope and Yellowstone Cutthroat Trout
	Arctic Grayling
	Blue Sucker
	Pallid Sturgeon
Survey and Inventory:	Mussels group
	Prairie Fish group
	Reptiles group
	Bats group
	Shorebirds

Conservation and enhancement of high priority or 'Tier 1' community types, increased focus on high priority species (Tier 1) of greatest conservation need, and the collection of expanded distribution and occurrence data for high priority species groups are all crucial elements for preventing and/or reversing species declines. The projects described in this report demonstrate FWP's commitment to multi-species and habitat conservation efforts and to effective, cooperative partnerships. These efforts help reduce the

need to further protect target species under the Endangered Species Act. Projects implemented or planned during the 2010-11 biennium are described below. Funding totals and sources for these projects are described in Table 1 at the end of this report.

PROJECT 1. Terrestrial and Riparian/Wetland Habitat Conservation

A. Habitat Conservation and Restoration of the Missouri Coteau and Glaciated Plains of the Milk and Missouri Rivers: FWP determined it was most effective to focus SWG resources in one focus area for a period of several years, and therefore established the Milk River Initiative, with a primary objective to *"Place 10,000 acres within the Milk River Riparian Zone under conservation easements or other appropriate strategies to conserve fish and wildlife communities including game and nongame species groups."* This habitat-focused project protects and restores Tier 1 community types with emphasis on riparian and wetland habitats and sagebrush-grassland complexes along the Milk and Missouri River corridors.

Work items for FY2010 & FY2011

- Conserve 20,000 acres under fee title acquisition, conservation easement or 30-year lease agreements. NOTE: prior to pursuing any easement or acquisition, this grant will be amended to include a description of the parcel(s), as well as current appraisals, location maps, and other information as required.
- Initiate 1 or more managed livestock grazing systems to enhance riparian and shrub-grassland habitats, and work with private landowners to implement rest-rotation grazing prescriptions, typically employing a three or four pasture system.
- Restore up to 100 acres of riparian (cottonwood and shrub) habitat. Efforts will include deferment of farming activities or livestock grazing in areas subjected to periodic flooding where natural regeneration of cottonwoods, willows and other species would occur, as well as replanting native tree and shrub species in areas subjected to high water tables. The intent would be to allow existing cropland to revert to the native Tier 1 vegetation communities dominated by riparian species.
- Restore up to100 acres of native shrub-grassland habitat. This will be accomplished by returning existing cropland in the riparian corridor to native shrub and herbaceous species composition, largely through replanting efforts. The goal is to convert nonnative, introduced hay meadows or cropland back into native plant species zones, which will act as a buffer to adjacent cottonwood galleries.
- Complete baseline inventory surveys for species diversity, focusing on designated species groups.

FY 2010 Accomplishments

Conserve Acreage- FWP finalized conservation easement (CE) development and negotiations on the Lower Brazil Creek in FY2010, but the landowner has since backed out. FWP finalized conservation easement terms for Cottonwood Bend and Lower Beaver Creek in FY10 and will close on these properties in FY2011. The Cottonwood Bend and Lower Beaver Creek CE's are 159 and 462 acres, respectively that border approximately 4.25 miles of Milk River and Beaver Creek and the associated riparian habitat. These projects received final approval from the FWP Commission and State Land Board in June and August of 2010. The South Glasgow CE project was endorsed by the FWP Commission in FY2010 and will be developed in FY2011. Since FY08 and despite losing a major project in FY08 at the ending stages, the Milk River Initiative has protected 1,777 acres of Milk River riparian habitat through fee-title and conservation easement purchases.

Livestock Grazing Systems- In FY10, the grazing system on the Brazil Creek CE was implemented and the rest rotation grazing system contract on the Fresno Wildlife Management Area (WMA) (2,528 acres)

was renewed for another 10 years. The Vandalia WMA continued using a prescribed livestock grazing system to enhance riparian and shrub-grassland habitats. Grazing systems for the Lower Brazil Creek, Cottonwood Bend and Lower Beaver Creek CE projects were designed.

Restore Riparian Habitat- Fifty four acres of native riparian habitat was rested from grazing on the Cree Crossing WMA to rehabilitate it from previous grazing practices, including winter feeding. Over 2,000 willow, dogwood, and cottonwood trees were planted on the Brazil Creek CE. Future tree and shrub restorations were designed in cooperation with the Natural Resources and Conservation Service.

Restore Native Shrub-Grassland Habitat- Ninety five acres of cropland were seeded back to grassland habitat on the Cree Crossing WMA. At the Rookery WMA, 65 acres of non-native hay meadows consisting primarily of crested wheatgrass and smooth brome were broken up in the fall of 2009 in preparation for planting in 2010. They were seeded to grain in Spring 2010. These acres will be farmed for two years to reduce nonnative species seed. After two years, they will be seeded back to grassland habitat. Additionally, seven acres of nonnative hay meadows were broken in the spring of 2010, in preparation for farming in 2011 and eventual reseeding to grassland habitat. The old irrigation pump and culverts were removed and a new irrigation pump and removable floating dock intake were purchased. Repairs of the irrigation ditch were also bid out. These improvements will allow FWP to resume irrigation practices from the Milk River. This water will be used in the future to irrigate restored grassland habitats and future shrub and tree plantings.

Within the Hinsdale WMA, 40 acres was summer fallowed to kill unwanted vegetation for seed bed preparation for dense nesting cover seeding in FY2011 and for the establishment of 10 acres of food plots. Two new food plot fields were established; a three acre field north of the access road and a two acre field south of the access road. The five acre field established in FY2009 was again planted as a food plot.

In the seven Milk River WMAs, three water control structures on three ponds were replaced to implement waterfowl and shorebird pond habitat restoration. In the spring of 2010, we were able to fill and maintain water levels on these ponds for waterfowl and shore bird reproduction as well as other species. Habitat restoration plans for these ponds includes the draining of ponds in midsummer with an effort to increase pond productivity by increasing vegetation and nutrient production for water fowl and shore bird reproduction.

A working relationship with a local farmer was established to perform farming on Cree Crossing WMA. The farm lands include a wheat field with portions that will not be harvested for food plots, an alfalfa field to be harvested after July 15th for use as nesting cover habitat enhancement, and three hay barley fields. There was also .75 miles of interior fence removed from the west portion of Cree Crossing WMA. The removal of this fence increased the continuity of this area, allowing wildlife to be free to roam. Fence removal will also help with future habitat work as needed on this WMA.

Cropland conversion, hayland conversion, cottonwood regeneration and cottonwood buffer projects were designed on Lower Brazil Creek and Cottonwood Bend CEs. Cropland conversion, hayland conversion and cottonwood buffer projects were implemented on the Brazil Creek CE.

Baseline Surveys- Songbird monitoring was conducted in 2010 on 15 FWP properties including four CEs, two fishing Access Sites and nine WMAs. At least one Species of Concern was detected at 13 of these sites with a range of 1 to 10 Species of Concern detected at each. A total of 20 different Species of Concern were documented at least once including bald eagle, loggerhead shrike, veery, Franklin's Gull, McCown's longspur and Sprague's pipit.
Acoustic bat monitoring was conducted at 11 sites on FWP properties. Four species including little brown myotis, big brown bat, silver-haired bat and hoary bat were detected. Bat mist netting was

conducted at Cree Crossing WMA for one night and resulted in the capture of little brown bats. Small mammal surveys were conducted on four conservation easement properties. Results are pending.

Lentic reptile and amphibian surveys were conducted at eight FWP sites and nine Species of Concern were detected. The most abundant species detected was the painted turtle. Northern leopard frogs, plains garter snakes and western chorus frogs were also abundant. Great plains toads were found at two sites with confirmed reproduction at both properties. Plains spadefoots were found at three sites with confirmed reproduction at all three properties. Northern leopard frogs were found on four sites with confirmed reproduction at three of the properties.

Eight FWP properties were surveyed for owls in 2010. Great horned owls were detected on all eight properties, eastern screech owls were detected on three and long-eared owls were detected on one.

Great blue heron rookery and eagle nest surveys were expanded from the lower Yellowstone, Tongue and Powder rivers to smaller prairie perennial streams in southeastern Montana. Structured aerial surveys were conducted along O'Fallon Creek, Sheep Creek, Box Elder Creek, Little Missouri River, Rosebud Creek, Little Powder River, Hanging Woman Creek, Otter Creek, Burns Creek and Beaver Creek. Active rookeries were documented along the Little Powder River, Little Missouri River, Box Elder Creek and O'Fallon Creek. The second largest rookery (72 nests) known to exist in southeastern Montana was documented along Box Elder Creek. Eight additional active rookeries were opportunistically documented outside of survey areas. Estimated recruitment at 80 occupied nests was calculated to 0.90 fledged young per adult pair.

Aerial surveys for eagle nests were completed along O'Fallon Creek, Sheep Creek, Box Elder Creek, Little Missouri River, Rosebud Creek, Little Powder River, Hanging Woman Creek, Otter Creek, Burns Creek and Beaver Creek. Occupied bald eagle nests were documented along Box Elder Creek and O'Fallon Creek. Occupied golden eagle nests were documented along the Little Missouri River and OFallon Creek. The riparian area of each stream surveyed contains suitable eagle nesting habitat. As bald eagle populations and distributions continue to grow, nesting bald eagles will likely occupy these riparian areas.

Aerial recruitment surveys of known bald eagle territories were completed along the lower Yellowstone, Tongue, and Powder Rivers. Thirty-six of 65 known territories were occupied by nesting pairs. The average fledging success of the three areas was variable ranging from 1.33-2.25 fledglings per adult pair. The high number of lost nests along each of these rivers was likely caused by several days of sustained high winds (up to 70 miles per hour for 14 hours) and high stream flows cutting away river banks.

B. Western Montana: Identify priority properties for conservation within FWP Region 1 by documenting distribution and abundance of key species groups (bats, reptiles, amphibians, small mammals and birds). Baseline inventories will be conducted on existing WMAs, conservation easements, and newly acquired or desired acquisition properties.

Work items for FY2010 & FY2011

- Complete baseline inventory surveys for species diversity, focusing on designated species groups.
- Support area biologists and statewide bird conservation coordinator to prioritize habitat conservation and restoration projects

FY2010 Accomplishments: Four 'nongame' interns were hired to assist with nongame surveys and loon management activities in Northwest Montana under the supervision of a nongame biologist. Peregrine falcon, bald eagle, harlequin duck, leopard frog and high elevation species surveys were completed. An

identification guide, "Terrestrial Species Sensitive to Climate Change" was completed and distributed to agency and outside agency personnel for targeted monitoring of hoary marmot colonies, pika colonies, white-tailed ptarmigan, and other alpine species. Generally coordinated nongame survey efforts across northwest Montana with survey crews, area biologist and interagency staff. Efforts included small mammal trapping to determine Species of Concern presence at the following WMAs: North Shore State Park/WMA, Foys Bend Fish Conservation Area, Mount Silcox, Sheep Viewing Area (MT HWY 200-Thompson Falls), Bull River. Documented Northern alligator lizards in new locations and surveyed previously documented locations for northern bog lemmings. Partnered with Confederated Salish and Kootenai Tribes to conduct sharp-tailed grouse surveys on the Flathead Indian Reservation. Completed final drafts for bald eagle management guidelines and bald eagle status report. Prepared "Justification of Standards" as part of the Model Subdivision Regulations for bald eagle, golden eagle, ferruginous hawk, peregrine falcon, and burrowing owl. Reviewed and provided comments on standards for common loon and great blue heron.

C. Aspen Gallery Assessment: Aspen habitats within the West are recognized as being vital to sustaining biodiversity in western landscapes (Knopf 1985, Knopf et al. 1988, Tewksbury et al. 1998). In Montana, aspen galleries provide unique and critical habitat for a diversity of species including several Tier I and species of concern such as flammulated owl and olive-sided flycatcher. On a broad scale, aspen habitats provide for seasonal movements of large carnivores such as grizzly bears and food sources for a variety of smaller species including Tier 1 classified bat species. Research findings and actions taken to restore aspen communities will benefit many more species than just those with special classifications.

Work items for FY2010

- Complete baseline inventory surveys for species diversity within aspen galleries.
- Assess aspen galleries within focus areas for habitat quality and identify prescriptive measures needed to improve habitat quality.
- Pursue adaptive management guidelines for aspen restoration programs that benefit the greatest number of wildlife species.

FY2010 Accomplishments: A University of Montana graduate student and seven field technicians continued nest monitoring and vegetation data collection in 2010. A total of 355 nests of 31 bird species were located and monitored. Out of the 355 nests, over 200 were open-cup nests and the rest were cavity nests. To measure species diversity within the different treatment areas, 150 point count surveys were conducted. A few species were seen more than once in 2010 that were not observed in 2009: evening grosbeaks and Cassin's vireos. A total of 44 species occupied the aspen stands, with a maximum of 20 species and minimum of 5 species in each aspen stand. Further data analysis is underway.

Vegetation surveys continued in 2010 and consisted of tree and shrub counts, ground cover estimates, canopy cover estimates, understory density estimates, and other nest concealment measurements. The survey information will be used to compare habitat features available in each aspen stand compared to the nest sites used by the birds. Predator surveys will also be completed by the end of the summer. Squirrels, chipmunks, snakes, and jays are continually being recorded as they are seen, and maps of their locations in relation to nests will be completed at the end of the summer. Thesis completion for this work to include recommendations for adaptive management that benefits the greatest number of species is scheduled with the Biology Department at the University of Montana in December 2010.

New Project for FY2011

A. Black-Footed Ferret Habitat Conservation and Restoration Prioritization: Evaluation of black-tailed prairie dog populations in Montana to identify and document Category 1 and 2 complexes sufficient to maintain viable populations of black-footed ferrets is needed. Identifying and delineating these complexes will allow for conservation prioritization and possibly restoration of land parcels necessary for a Montana ferret recovery program. Montana Fish, Wildlife and Parks, land management agencies, NGOs and private landowners will discuss results of this work and the next appropriate steps for conservation or restoration of these complexes.

Work items for FY2011

- Prairie dog complex borders will be entered into a GIS mapping program that allows for calculation of complex size and a display of public and private lands bordering the complexes.
- Enter Category 1 and 2 complex borders into a GIS mapping program to allow delineation, evaluation and prioritization for conservation planning.

PROJECT 2. Species-Based Conservation

A. Trumpeter Swan Restoration: Trumpeter swans are classified as Tier 1 species of greatest conservation need in Montana's Comprehensive Strategy and Implementation Plan. The habitat needed by nesting trumpeter swans includes the Tier 1 community types of greatest conservation need; wetland and riparian. In an effort to conserve trumpeter swans and their habitat the *Blackfoot Valley Trumpeter Swan Implementation and Evaluation Plan* was written. Work towards the plan goal of seven established breeding pairs began in 2005 with the release of ten birds. This model essentially involves releasing genetically suitable trumpeters, taken either from wild flocks in other parts of North America or releasing captive-reared trumpeters of suitable genetic background. Swans are to be released into suitable habitats until natality exceeds mortality and wild nesting, without augmentation, sustains the flock. This program has been approved by the Pacific Flyway Council and will be implemented in accordance with the *Pacific Flyway Plan for the Rocky Mountain Population of Trumpeter Swans* and the associated *Trumpeter Swan Implementation Plan*.

Work Items for FY2010

- Obtain and release 10 to 20 genetically suitable trumpeter swans in the Blackfoot Valley annually.

FY2010 Accomplishments: Trumpeter Swan Restoration from 2005-2009, 112 trumpeter swans were released in the Blackfoot Valley. Thirty (27%) of these birds are known to be dead. Thirty-eight (34%) birds have been seen within the last year and are believed to be alive at the time of this report. Forty (36%) of the release birds are missing from our observations over the last year. Thirty additional swans were released in the Blackfoot Valley in 2010. In the spring of 2010 three breeding territories were established, but no nesting was confirmed in the valley.

Re-observations of the Blackfoot Valley release birds indicate a strong tendency to migrate out of the valley during winter. Release birds are tending to move into the Snake River Valley in Idaho, Bear River in Idaho or the Ruby River in Montana by late November to early December. Re-observations also indicate a tendency for the Blackfoot trumpeters to migrate through low mountain passages, for example, following Interstate 15 into southeast Idaho. Winter feeding and loafing areas are generally along the Snake, Bear Rivers and Ruby River but also on instream reservoirs (Oneida & American Falls). There have even been some re-observations of Blackfoot trumpeters feeding in stubble fields during the day particularly around American Falls Reservoir.

B. All Bird Conservation Coordinator and Nongame Bird Monitoring: On the Montana Species of Special Concern list, 61 (51%) of the 119 vertebrate species are birds. Of the top 20 common birds that show the steepest continental declines, 13 species (65%) breed in Montana. A statewide all-bird conservation coordinator significantly and rapidly helps advance the goals of the Montana Comprehensive Wildlife Conservation Strategy, facilitate and rejuvenate cooperation among partners, and catalyze and prioritize conservation implementation of Montana's native birds.

An all-bird conservation coordinator oversees the development and implementation of a statewide strategy to protect and conserve Montana's native birds and their habitats. The coordinator acts as a liaison between Fish, Wildlife, and Parks and the Montana Bird Conservation Partnership to help partners prioritize and implement on-the-ground conservation, education, monitoring and research efforts.

Work Items for FY2010 & FY2011

- Support an All-Bird Conservation Coordinator to prioritize and implement partnerships and on-the-ground conservation projects.
- Organize statewide monitoring effort for nongame birds on state-owned and managed properties, as well as other private lands as available, and utilize new survey information to support potential conservation actions and assess on-going strategies.

FY2010 Accomplishments: The All Bird Conservation Coordinator held two meetings of the Montana Bird Conservation Partnership in FY2010 and continued to clarify needs and objectives of the Partnership. This coordinator is a Joint Venture steering committee chair and has coordinated efforts among all three of the Joint Ventures that cover Montana. The coordinator participated in a Prairie Plains and Pothole Landscape Conservation Cooperative technical committee along with providing technical guidance relative to other LCC or cooperative efforts. The coordinator has been successful in securing over $100,000 in grant funding for conservation capacity building in Montana. In cooperation with partners, the coordinator has leveraged over $250,000 for bird monitoring and inventory in 2010 and has completed numerous contracts with outside entities including the University of Montana, Montana Audubon, Rocky Mountain Bird Observatory, US Forest Service, and Montana Natural Heritage Program to complete much needed avian research and monitoring. Statewide coverage of the landbird monitoring program was implemented in 2010. A second year of statewide waterbird surveys were coordinated and completed to meet federal and state data needs.

Working relationships have been formed with other state coordinators through Flyway committee representation, i.e. Nongame Technical Committee, that have furthered Montana's involvement in range-wide species management. Coordinator participation in the Flyway committee has also broadened Montana's involvement and awareness of fish eating bird issues allowing more time for local discussions and planning in Montana. The Coordinator also represented Montana at the Western Working Group of Partners in Flight. Planning for west-wide survey efforts for species such as flammulated owls and nightjars is being coordinated through this working group. Coordinator submitted comments to the US Fish and Wildlife Service on listing petitions for Sprague's pipit and mountain plover. The coordinator continued to facilitate efforts of the Montana Peregrine Falcon Working Group and supervised completion of a supplement to the Montana Bald Eagle Management Plan. These multi-species and landscape-scale programs provide conservation information or action in several priority geographic areas and habitats identified in the CFWCS. They also provide survey data on more than half of the birds listed as Species in Greatest Need of Inventory in the CFWCS.

New Project for FY2011

A. Prairie Dog Monitoring: Both species of prairie dog have been petitioned for listing under the ESA, and USFWS decisions relative to the "not warranted" or "warranted but precluded" status have been

challenged by litigation. Both species have been designated Tier 1 species of greatest conservation need in Montana's CFWCS and Implementation Plan.

Given the continued regional and statewide concern over the status of prairie dogs, the recognized importance of their colonies as habitat for ferret, mountain plover and burrowing owl populations, and the negative consequences of recent plague epizootics and drought conditions, it is important for Montana to assess the current distribution and abundance of prairie dogs. Testing and finalizing an effective and efficient method of monitoring prairie dogs is a priority for most western states and pertinent to FWP priorities and mandates. The use of National Agriculture Imagery Program (NAIP) imagery to detect prairie dogs and classify complexes may prove to be an efficient method of monitoring prairie dogs in itself or may prove to be a technique that increases efficiency of aerial survey and ground survey methods like those previously used. In hopes of refining monitoring techniques and fulfilling the goals of the *Conservation Plan for Black-Tailed and White-Tailed Prairie Dogs in Montana* (2002), FWP partnered with the Montana Natural Heritage Program and Bureau of Land Management in 2009 to complete a statewide pilot mapping of prairie dog colonies using natural color and color infrared images from the NAIP 2005 imagery (USDA Farm Services Agency 2010). Generally the 2005 NAIP imagery worked well for identifying areas with evidence of recent activity for black-tailed prairie dogs, however, white-tailed prairie dog colonies were not easily detected, potentially as a result of extirpation of colonies, lower densities and less obvious burrow structures. Ground truthing has been completed to correct for any bias or mis-identification and a replicate analysis is now needed with the recently released 2009 imagery to determine the efficiency and effectiveness of NAIP methods.

Work items for FY2011

- Digitize 2009 NAIP imagery to refine methods and evaluate spatial changes of prairie dog complexes between sample years.

- Validate results of digitized 2005 and 2009 NAIP imagery through ground truthing.

PROJECT 3. Survey and Inventory Conservation Activities

A. Bat, Amphibian, Reptile, Small Mammal, and Bird Diversity Monitoring: Completing statewide baseline assessments of the status and distribution of terrestrial reptiles and bats (Tier 1 Inventory priorities) will provide the foundation for determining the appropriate steps to be taken to conserve these species groups. Establishing statewide sampling schemes for monitoring the status and distribution of bats and reptiles, which will be compatible with efforts undertaken by the USFS and BLM for these same species groups, is essential in providing a cost effective and disciplined approach across all landownership jurisdictions.

This project is being undertaken to provide a sampling scheme and framework of methodologies that can be combined with those previously developed for small mammals, birds, and amphibians for simultaneous long-term monitoring of a diversity of wildlife on public and private lands. This work will be accomplished utilizing existing FWP and Montana Natural Heritage Program staff, seasonal technicians, and other cooperators. All species information will be placed in the statewide Point Observation Database (POD).

Work items for FY2010 & FY2011

- Continue assessment (years 2 and 3 of 3-year assessment) of the distribution and status of terrestrial reptiles, bats and small mammals (statewide).
- Conduct statewide diversity monitoring for small mammals and amphibians on state-owned and managed properties, as well as other private lands as available, and utilize new survey information to support potential conservation actions and assess on-going strategies.

- Implement monitoring efforts for nongame birds on state-owned and managed properties, as well as other private lands as available, and utilize new survey information to support potential conservation actions and assess on-going strategies. Update POD with new species status and distribution information and review Species of Concern lists relative to new information.

FY2010 Accomplishments: Distribution and Status of Reptiles: The spiny softshell turtle is a Montana Species of Concern, a Tier 1 Species with greatest conservation need, and a BLM Sensitive Species. However, very little is known about the populations of spiny softshells in Montana. Spiny softshell populations on the Missouri River upstream of Fort Peck Dam (Middle Missouri River, MMR) are isolated from other populations, and are therefore at risk of extirpation. Fifty-four spiny softshell turtles were radio tagged in FY2010 as part of a cooperative Montana State University graduate project. The student has since begun a detailed study on turtle movements, habitat use, and behavior.

Forty-eight of the 54 tagged turtles relocated in the fall of 2009 moved distances greater than 0.1 river mile. The average distance moved was 2.7 river miles, with a maximum movement of 26.5 and a minimum of .2 river miles. Forty-one of the 54 tagged turtles were relocated in the spring of 2010. Twenty-one had moved distances greater than 0.1 river miles from their fall location and 16 turtles had immobile codes indicating they had not moved in 24 hrs. Aggregation size ranged from 2 -5 tagged individuals with an average of ~2 per site in the Fall of 2009. In the spring of 2010, aggregation size ranged from 2-6 tagged individuals with an average of ~3 individuals per site. It is likely that aggregations are much larger than this as these are aggregations of just tagged turtles. More information is needed regarding hibernacula and time of dispersal from hibernacula.

Diversity Monitoring: The following diversity monitoring items were completed: (1) implement a sampling scheme for the diversity monitoring project; (2) implement and refine field protocols and forms for sampling amphibians, reptiles, small mammals, and bats; (3) complete surveys in calendar year 2009, (4), hire and train field crews for the 2010 field season; and (4) conduct year two of the surveys.

Six field crew members surveyed 114 quadrangle sites in the summer of 2009. Acoustic bat-call recordings are being analyzed by Montana Natural Heritage Program staff with thousands of recording hours needing to be evaluated. Mist netting of bats was not conducted.

Ten reptile species were detected with three being Species of Concern. Eight species of amphibians were detected with three being Species of Concern. Nineteen species of small mammals were detected with only one being a Species of Concern. All species information is being placed in the Montana Natural Heritage databases. Data collected in 2010 is currently being analyzed.

Landbird Monitoring: Montana Fish, Wildlife and Parks, in conjunction with Rocky Mountain Bird Observatory, USDA Forest Service; USDI Bureau of Land Management; Northern Great Plains Joint Venture; South Dakota Game, Fish and Parks; Wyoming Natural Diversity Database; Audubon Wyoming and Wyoming Game and Fish Department conducted its first field season of landbird monitoring throughout the Badlands and Prairies Bird Conservation Region (BCR 17) in 2009. The BCR 17 landbird monitoring program used a newly-developed, spatially-balanced sampling design with the BCR as the sampling frame and stratification by land management boundaries and ecoregional attributes. This monitoring design allows inferences about avian species distributions and population sizes from small scales to entire BCRs, facilitating conservation from fine scales to national and international levels.

In 2009, 81 transects were surveyed in Montana, 28 in North Dakota; 6 in Nebraska; 76 in South Dakota; and 35 in Wyoming. Field technicians conducted 2,675 point counts between 16 May and 15 July 2009 and detected 28,821 birds of 184 species throughout BCR 17. We estimated BCR-level densities,

stratum-level densities and population estimates for 55 landbird species, including 11 priority species. The data yielded robust density estimates for 46 of these species at the BCR scale and for 52 of these species in at least one stratum. Given similar sampling effort and avian population dynamics in future years, we would be able to detect an average annual 3% change in populations of these species within 30 years. Occupancy modeling was used to estimate occupancy rates for priority species. This will allow us to monitor populations of avian species that are rare or difficult to detect.

Efforts continued statewide in Montana in 2010 with Rocky Mountain Bird Observatory supervising field work in Montana Fish, Wildlife and Parks Regions 1, 2, 3, 5,and 7; and the MNHP supervising crews in Regions 4 and 6. The same sampling units (minus a few) in BCR17 will be visited in 2010.

New Projects for FY2011

A. Mountain Plover Surveys: The USFWS reinstated a proposal to list the mountain plover as a threatened species in June 2010. Surveys for mountain plovers in Montana are needed to assess population status and geographic distribution in the face of this ESA listing.

Work items for FY2011

- Design and implement a statistically defensible, stratified random approach to monitoring mountain plovers across Montana. Establish a baseline estimate of mountain plovers for future trend monitoring and contribution to the range wide discussion of mountain plover conservation in the face of an on-going status review.

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